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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,611	11/13/2003	Theodore Bydalek	11-9540-6520-0000-2	9015

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05/17/2007

EXAMINER
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SHARP, JEFFREY ANDREW

ART UNIT	PAPER NUMBER
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3677

MAIL DATE	DELIVERY MODE
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05/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/712,611

Applicant(s)

BYDALEK ET AL.

Examiner

Jeffrey Sharp

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 48-63 and 67-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 48-63 and 67-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/28/2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

[1] This action is responsive to Applicant's remarks/amendment filed on 28 February 2007 with regard to the Official Office action mailed on 31 August 2007.

#### *Status of Claims*

[2] Claims 48-63, and 67-69 are pending.

#### *Drawings*

[3] The drawing(s) were previously objected for informalities. Applicant submitted a replacement sheet on 28 February 2007 to address claimed subject matter (spherically convex annular bearing surface) not shown.

The amendment filed 28 February 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the location of the spherical annular bearing surface on the body was not previously disclosed. Therefore, the new replacement sheet effectively introduces matter, which previously has not been disclosed by illustrating a particular location for the annular bearing surface having a spherically convex shape -- said location being a lower side of the body.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Objections/Double Patenting***

[4] Claims 62 and 63 were previously objected to because they are substantial duplicates of claims 58 and 59, respectively. Applicant has persuasively argued this issue in the response filed on 28 February 2007. Claim 62 further limits "shaped according to the grooved body" of claim 58, by "shaped, at least in part, to fit within the groove on the body".

Accordingly, after further consideration, the objections to claims 62 and 63 for double patenting have been withdrawn.

***Claim Rejections - 35 USC § 112***

[5] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

[6] Claim 60 was previously rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has successfully addressed the issue(s) of indefiniteness in the amendment filed on 28 February 2007 by eliminating the confusion to whether or not an element was missing. Accordingly, the rejection of claim 60 under 35 U.S.C. 112, second paragraph is withdrawn.

***Claim Rejections - 35 USC § 103***

[7] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[8] Claims 58-63 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Becker US-4,143,578 in view of any one of Crowther US-1,940,675 or Zorn et al. US-4,240,670 or GB 2051285 A.

In short, Becker teaches a fastener assembly (10) comprising a body (12) being configured as a nut and having a torque transmitter (hexagonal profile) and threads (24), and a cap (14) retained on the body (12), wherein the cap is held onto the body via an interference fit facilitated by at least one groove (26). The body (12) has an annular bearing surface (18) adjacent a generally cylindrical surface (30).

However, Becker fails to disclose expressly, the annular bearing surface (18) to be generally spherically convex.

Crowther suggests on page 2 lines 116-119, that a spherically convex annular bearing surface for a nut is an *obvious variant* of a conical bearing surface in the art. Therefore, Crowther suggests that a spherically convex bearing surface is an obvious art-recognized equivalent to Becker's conical bearing surface, and that one of ordinary skill in the art would instantly recognize this modification.

Zorn et al. suggest on column 3 lines 48-49, a generally spherically convex annular bearing surface (48). The generally spherical convex shape of the annular bearing surface allows the surrounding washer (52) to expand radially outwardly after torque is applied to the nut, and to facilitate frictional engagement between the washer and its mating workpiece (12').

GB 2051285 A suggests a generally spherically convex annular bearing surface (16) for self-centering purposes.

Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to modify the annular bearing surface (18) taught by Becker, to be generally spherically convex as suggested by Zorn et al., in order to cause radially outward expansion of a surrounding washer. In the alternative, it would have also been obvious to one of ordinary skill in the art to substitute the annular bearing surface (18) taught by Becker, for a generally spherically convex annular bearing surface, since Crowther deems the two to be art-recognized equivalents. Lastly, it would have been obvious to one of ordinary skill in the art to modify the annular bearing surface (18) taught by Becker, to be generally spherically convex as suggested by GB 2051285A, in order to improve the self-centering function of the fastener assembly, especially when in engagement with a washer.

***Response to Arguments/Remarks***

[9] Claims 48-50, 52, 54, 55, and 56 were previously rejected under 35 U.S.C. 102(b) as being anticipated by GB 2179416 A.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[10] Claims 48-50, 52-54, 55, 56, and 60 (as understood), were previously rejected under 35 U.S.C. 102(b) as being anticipated by FR 633186 A.

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Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[11] Claims 48-50, 52, 54, and 56 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Becker US-4,143,578.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[12] Claims 48-52, 54, and 56 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al. US-4,557,654 (figures 7 and 8).

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[13] Claims 48-50, 52, and 54-56 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Hobson et al. US-4,427,326.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[14] Claims 48-50, 52, 54, 55, and 56 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Liffick US-3,960,047.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[15] Claims 48, 49, 51, 52, 56, and 57 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Espey et al. US-5,350,266.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are moot in view of the following new grounds of rejection.

[16] Claims 58-63 were previously rejected under 35 U.S.C. 103(a) as being obvious over Becker US-4,143,578 in view of any one of Crowther US-1,940,675, or Zorn et al. US-4,240,670, or GB 2051285 A.

Applicant's arguments/remarks with regard to this rejection have been fully considered, but are not persuasive for at least the reasons mentioned above. In short, the Examiner does not see how one of ordinary skill in the art would not be motivated to modify a body to have a spherically convex bearing surface in view of the Crowther, Zorn et al., and GB 2051285 A reference. It is not required that the prior art disclose or suggest the properties newly-discovered by an applicant in order for there to be a prima facie case of obviousness. *See In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897, 1905 (Fed. Cir. 1990). Moreover, as long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor. *See In re Beattie*, 974 F.2d 1309, 24 USPQ2d 1040 (Fed. Cir. 1992); *In re Kronig*, 539 F.2d 1300, 190 USPQ 425 (CCPA 1976) and *In re Wilder*, 429 F.2d 447, 166 USPQ 545 (CCPA 1970). The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly



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suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F. 2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In this regard, a conclusion of obviousness may be based on common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. *In re Bozek*, 416 F. 2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). In the instant case, it is known by those of ordinary skill in the art to put a spherical chamfer on nuts to reduce inter-rotational friction, eliminate burrs and sharp dangerous corners, and also to allow multi-axial movement with a surface.

### ***New Grounds of Rejection***

#### ***Claim Rejections - 35 USC § 112***

[17] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

[18] Claims 49-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what "left hand notch" and "right hand notch" would mean to one of ordinary skill in the art, and therefore, the scope of the claim cannot be readily ascertained. It is not clear how "left-hand" or "right hand" modifies "notch". Since a "left" and/or "right" direction is not defined, these descriptors are indefinite. It is further unclear how a "right hand" notch can be at an angle other than ninety degrees, as one of ordinary skill in the art recognizes

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that a "right triangle" is a triangle formed from a ninety-degree angle. Using similar logic, a "right hand notch" would suggest a notch formed from a ninety-degree angle.

***Claim Rejections - 35 USC § 102***

[19] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[20] As they are understood, claims 48-54, 56, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2051285A.

In short, and when the claims are given their broadest reasonable interpretation, Jones generally discloses the invention as claimed, teaching a fastener assembly comprising a body (11) having a torque transmitter (13), thread (14), retaining surface (18), notch (inherent, unlabeled) on the retaining surface (18), and a cap (12) having an inner surface (19) that retains the cap (12) on the body (11) through an interference fit. As it is understood, the notch has an angle between thirty and sixty degrees, and particularly 45 degrees (shown in figure 3). The body (11) is a nut (11).

[21] As they are understood, claims 48-57 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 830722.

In short, and when the claims are given their broadest reasonable interpretation, Morse generally discloses the invention as claimed, teaching a fastener assembly comprising a body (Figure 7) having a torque transmitter (120), thread (104), retaining surface (128), right/left hand notch (110,136) on the retaining surface (125), and a cap (162) having an inner surface (156) that retains the cap (162) on the body (Figure 7) through an interference fit. As it is understood, the notch has an angle between thirty and sixty degrees, and approximately 45 degrees (shown at chamfer 41, 134). The body (Figure 7) is a nut. The assembly further comprises a washer (148). The retaining surface includes a second generally cylindrical surface.

### *Claim Rejections - 35 USC § 103*

[22] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[23] Claims 58, 60, 62, and 67-69 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over GB 618388.

In short, and when the claims are given their broadest reasonable interpretation, Elastic Stop Nut Corporation generally discloses the invention as claimed, teaching a fastener assembly

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comprising a body having a torque transmitter (10), thread (14,16), retaining surface (11), right/left hand notch (22) on the retaining surface (11), and a cap (26) having an inner surface (32) that retains the cap (26) on the body through an interference fit. As it is understood, the notch (22) has an angle between thirty and sixty degrees, and approximately 45 degrees. The body (10) is a nut (10). The retaining surface includes a second generally cylindrical surface, and the body further comprises a spherically convex bearing surface, and the groove (22) comprises a curved surface (inherent and shown). While the reference appears silent as to "stainless steel" as a material choice for the cap, it would be readily appreciated by those of ordinary skill in the art to use such a material, since caps are generally designed to be robust to the elements.

Note that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. It is also common knowledge to choose a material that has sufficient strength, durability, flexibility, hardness, etc. for the application and intended use of that material.

### ***Conclusion***

[24] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

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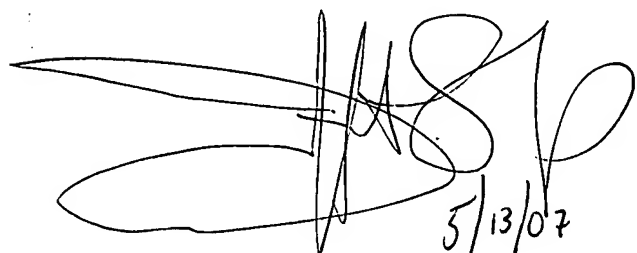
mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

[25] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



5/13/07



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